News release

North Atlantic observing and forecasting experiment

17 October 2003

The Met Office is playing a leading role in organising a new international experiment, called The North Atlantic THORPEX Regional Campaign (TReC), which could change the way the weather is observed and forecast. By targeting the observations in areas where they are specifically needed THORPEX hopes to improve the accuracy of forecasts - especially of weather systems that are particularly difficult to track.

The campaign is a European, American and Canadian joint project in which the Met Office Exeter will provide the lead operations centre. It will use the numerical weather prediction models of the Met Office, ECMWF (European Centre for Medium-Range Weather Forecasts), Météo-France and the American National Oceanic and Atmospheric Administration's (NOAA) National Centers for Environmental Prediction (NCEP) to give guidance about 'sensitive areas' where more-specific observations are needed. A sensitive area is one where weather observations are expected to improve the forecast of a weather system that is particularly uncertain. When there is a consensus about a sensitive area then the European, American and Canadian organisations will focus additional observational equipment on the area - using satellites, civil and research aircraft, civil shipping, radiosondes and drifting buoys. The additional data will then be input into the forecasting models and, it is hoped, improve the forecasts. Once the experiment, which runs from mid October to mid December, ends, the models will be run again, with the additional data removed, to see if having the extra observations did have a positive impact on the forecast.

The experiment builds on the experience accumulated over the Pacific Ocean where the NOAA developed a similar strategy, the Winter Storm Reconnaissance (WSR) program, which became fully operational in 2002. The European participation in THORPEX is being organised by EUCOS (Eumetnet Composite Observing System) which is the responsibility of the Met Office and involves 18 European national meteorological services.

Jim Caughey, the EUCOS programme manager at the Met Office, said: "If we find that the models can successfully predict these sensitive areas and that the additional data have a positive impact on the forecast then this work could lead to a new approach to observing and forecasting. As observing becomes more automated the weather forecasting models themselves will determine the observational programme. That means that internationally weather services would get observations from where they are going to be of most benefit."

Notes:

1. THORPEX (A Global Atmospheric Research Programme) is an international research programme to accelerate improvements in the accuracy of one- to 14-day high-impact weather forecasts for the benefit of society and the economy. It builds upon ongoing advances and will enhance international collaboration between these communities and with users of forecast products.
2. The members of EUCOS are: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and UK.
3. Others playing a vital role include EUMETSAT (European Organisation for the Exploitation of Meteorological Satellites); the American organisations NOAA (National Oceanic and Atmospheric Administration), NASA (National Aeronautics and Space Administration), UCAR (University Corporation for Atmospheric Research), NCAR (National Centre for Atmospheric Research) and NRL (Naval Research Laboratory); Environment Canada (Meteorological Service of Canada); NRC (Canadian National Research Council); DLR (The German Aerospace Centre) and LSE (London School of Economics and Political Science).

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